



Dipartimento di Ingegneria Civile,
Ambientale, Aerospaziale, dei Materiali

WMDP 2018

Workshop on Recent Advances in

Mechanics (structural/solid)

Dynamical Systems (deterministic/stochastic)

Probability Theory (mathematical/applied)

In honour of Prof. Mario Di Paola's 70 birthday

Università degli Studi di Palermo
Dipartimento di Ingegneria Civile, Ambientale, Aerospaziale, dei Materiali

5-6 March 2018

PROGRAM



A sketch of a tree from Leonardo da Vinci's Notebooks

Program

Monday, 5 March 2018 – Palazzo dei Normanni (Sala gialla)

08:30 to 09:00: Registration

09:00 to 10:00: Opening Session & **Invited Lecture. Pol D. Spanos**, Rice University – USA.

10:00 to 11:00: Scientific Sessions

11:00 to 11:30: Coffee Break

11:30 to 13:00: Scientific Sessions

1st Session			
10.00-10.15	Detection, modelling and simulation of thunderstorm outflows and their effects on construction	<u>G. Solari</u>	University of Genoa - Italy
10.15-10.30	Nonlinear coupling between axial and transversal oscillations of planar beams	<u>S. Lenzi</u>	University of Marche - Italy
10.30-10.45	A Non-Smooth-Contact-Dynamics approach for the analysis of vaulted structures	<u>G. Royer Carfagni</u> V. Beatini A. Tasora	University of Parma - Italy Abdullah Gül University-Turkey University of Parma - Italy
10.45-11.00	Analytical Expression of The Eshelby Tensor for Polyhedral Inclusions Having Arbitrary Shape	<u>L. Rosati</u> F. Marmo S. Trotta S. Sessa G. Zuccaro	University of Naples – Italy
11.00-11.30 Coffee Break			
2nd Session			
11.30-12.00	The use of adaptive Smart Displacement Shape Functions (SDSF) for non linear analysis of beam-like and frame structures	<u>S. Caddemi</u> B. Pantò D. Rapicavoli I. Calìo	University of Catania - Italy
12.00-12.30	Generalized micropolar homogenization of beam lattices	<u>L. Gambarotta</u> A. Bacigalupo	University of Genoa – Italy IMT Lucca– Italy
12.30-13.00	Homogenization of nonlinear composites based on FTA approach	<u>E. Sacco</u> F. Covezzi S. De Miranda S. Marfia	University of Naples - Italy

Monday, 5 March 2018 – Palazzo Steri (Chiesa Sant'Antonio Abate)

15:00 to 16:30: Scientific sessions

16:30 to 17:00: Coffee break

17:00 to 18:30: "PRIN" Meeting

19:30 Social Dinner

3rd Session			
15.00-15.15	Recent Advances in the Wave Dynamics of Lattice Metamaterials	<u>F. Fraternali</u>	University of Salerno - Italy
15.15-15.30	Numerical issues on modeling frictional materials	<u>C. E. Majorana</u> V.A. Salomoni G. Mazzucco B. Pomaro G. Xotta, N. De Marchi	University of Padova - Italy
15.30-16.00	Residuals of failure surface for the homogenized solution of random media	<u>F. Cluni</u> V. Gusella	University of Perugia- Italy
16.00-16.30	Novel aseismic design strategies optimized by energy-based stochastic performance criteria	<u>D. De Domenico</u> G. Ricciardi	University of Messina - Italy
16.30-17.00 Coffee Break			
4th Session			
"PRIN" Meeting			
17.00-17.30	Recent developments and computational strategies in seismic analysis of nonlinear structures	<u>S. Sessa</u> F. Marmo N. Vaiana L. Rosati	University of Naples - Italy
17.30-18.00	Combined use of conventional base isolation strategies and Tuned Mass Damper Inerter (TMDI) : Numerical application on a 5-story building	<u>I. Failla</u> D. De Domenico G. Ricciardi	University of Messina - Italy
18.00-18.30	Structural complexity maximization for an optimal consequence-based design	<u>V. De Biagi</u> B. Chiaia.	University of Torin - Italy
19:30	Social Dinner		

Tuesday, 6 March 2018 Palazzo Steri (Sala delle Capriate)

08:30 to 09:00: Registration

09:00 to 10:30: Scientific Sessions

10:30 to 11:00: Coffee Break

11:00 to 13:00: Scientific Sessions

5th Session			
9.00-9.30	Post-seismic assessment of the Basilica of Santa Maria degli Angeli (Assisi) based on structural monitoring data	<u>N. Cavalagli</u> M. Gioffrè V. Gusella F. Ubertini	University of Perugia – Italy University of Perugia – Italy University of Perugia – Italy University of Bologna - Italy
9.30-10.00	Interval finite element analysis of composite laminates with spatially varying uncertainties	<u>E. Romeo</u> A. Sofi A. Cocks	University of Reggio Calabria – Italy University of Reggio Calabria – Italy University of Oxford (UK)
10.00-10.30	Response Analysis of Structural Systems under Spectrum and Site Intensity Compatible fully non-stationary Artificial Accelerograms	<u>T. Alderucci</u> G. Muscolino S. Urso	University of Messina - Italy
10.30-11.00 Coffee Break			
6th Session			
11.00-11.30	Building Inventory at National scale by evaluation of seismic vulnerability classes distribution based on Census data analysis: BINC procedure	<u>D. De Gregorio</u> F. L. Perelli	University of Naples - Italy
11.30-12.00	Structural Dynamic Identification: Parametric Numerical Models, Monitoring Data and Uncertainty Quantification	<u>C. Pepi</u> M. Gioffrè	University of Perugia - Italy
12.00-12.30	On the wind load assessment in the framework of Computational Wind Engineering	L. Patruno S. De Miranda F. Ubertini	University of Bologna - Italy
12.30-13.00	Recent advances on the development of U-Oscillating Water Column wave energy converters	<u>G. Malara</u> V. Laface F. Arena A. Romolo	University of Reggio Calabria - Italy

15:00 to 16:30: Scientific Sessions

16:30 to 17:00: Coffee Break

17:00 to 19:30: Scientific Sessions

7th Session			
15.00-15.30	Closed-form expressions for fractional spectral moments of linear fractional oscillators driven by a white noise	G. Navarra G. Barone A. Ricciardello	University of Enna “Kore” - Italy
15.30-16.00	Recent developments and computational strategies in seismic analysis of nonlinear structures	<u>S. Sessa</u> F. Marmo N. Vaiana L. Rosati	University of Naples - Italy
16.00-16.30	The L.E.D.A. Experimental Dynamic Laboratory: test facilities and performances	G. Tesoriere G. Navarra F. Lo Iacono M. Oliva	University of Enna “Kore” - Italy

16.30-17.00	Coffee Break		
17.00-17.30	Advances in fracture mechanics of quasibrittle materials and interfaces	M.Santandrea G. Baietti C. Carloni	University of Bologna - Italy
17.30-18.00	A computational framework for materials micromechanics	I. Benedetti V. Gulizzi A. Milazzo	University of Palermo - Italy
18.00-18.30	Coupled bending–torsional frequency response of beams with attachments: exact solutions including warping effects	<u>G Failla</u> A. Burlon F. Arena	University of Reggio Calabria - Italy
18.30-19.00	A perturbation approach for the identification of uncertain structures	M. Vasta A. Paolone E. Lofrano	University of Chieti - Italy
19.00-19.30	Maxima distribution in nonstationary processes in space-time domain	<u>A. Romolo</u> G. Malara V. Laface F. Arena	University of Reggio Calabria - Italy

Maps and Directions to reach us:



A Palazzo dei Normanni – Piazza Indipendenza, 1, 90129 Palermo PA - 5 March 2018 – 8.30 to 13.00.

B Chiesa di Sant'Antonio Abate – Discesa Caracciolo Vicerè, 242, 90133 Palermo PA - 5 March 2018 – 15.00 to 18.30.

C Palazzo Chiaramonte Steri – Piazza Marina, 61, 90133 Palermo PA - 6 March 2018 -8.30 to 13.00, 15.00 to 19.30; 7 March 2018 - 8.30 to 13.00.

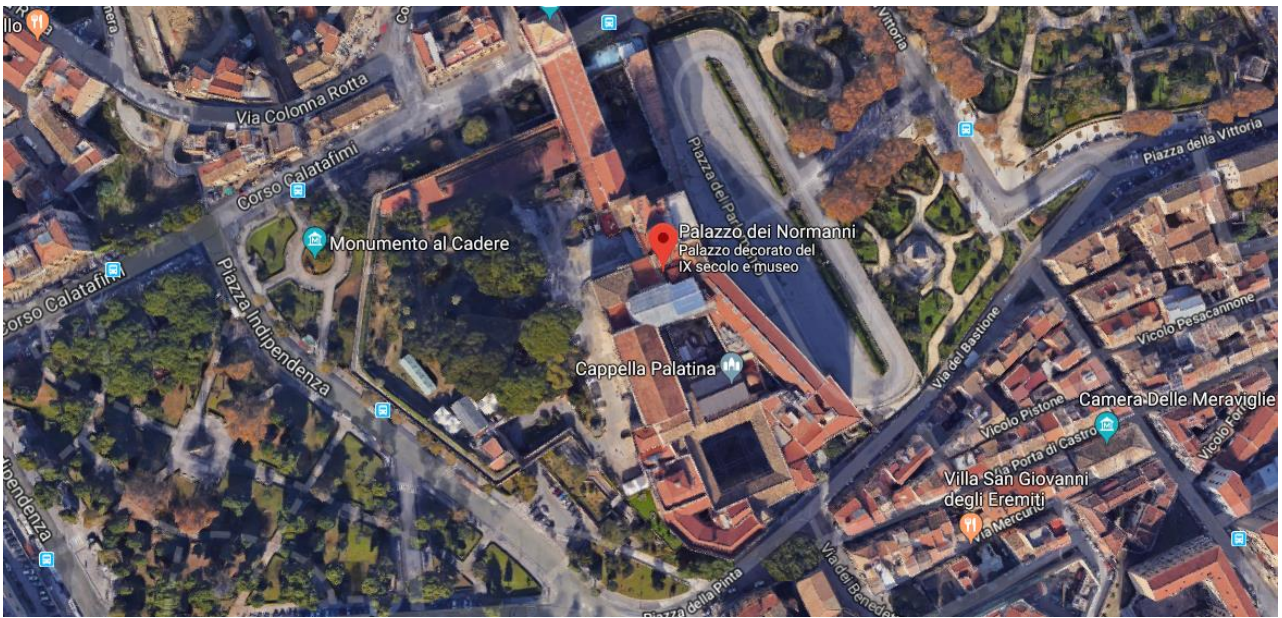


Palazzo Steri – Sala delle Capriate
Piazza Marina, 61, 90133 Palermo PA



Chiesa di Sant'Antonio Abate
Discesa Caracciolo Vicerè, 242, 90133 Palermo PA





Palazzo dei Normanni
Piazza Indipendenza, 1, 90129 Palermo PA